

# New depression treatment may avoid side effects

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The treating team; Anne Maree Clinton, Dr Kate Hoy and Professor Paul Fitzgerald with the MST machine.

In an Australian first, researchers are studying Magnetic Seizure Therapy (MST) as an alternative treatment for the 30 per cent of patients suffering from depression who don't respond to traditional treatment.

The study, led by researchers from the Monash Alfred Psychiatry Research Centre (MAPrc) and funded by beyondblue and the National Health and Medical Research Council (NHMRC), has been published in two leading journals: *Psychiatry Research: Neuroimaging* and [Depression and Anxiety](#). Both papers are a result of the same study.

MAPrc Deputy Director Professor Paul Fitzgerald, who led the study, said depression was a common and disabling disorder, affecting up to one in five Australians during their lifetime.

"Electroconvulsive Therapy (ECT) is one of the only established interventions for treatment resistant depression," Professor Fitzgerald said.

"But use of ECT is limited due to the presence of memory-related side effects and associated stigma."

For this reason, the MAPrc researchers began exploring new treatment options. MST is a brain-stimulation technique that may have similar clinical effects to ECT without the unwanted side effects.

"In MST, a seizure is induced through the use of magnetic stimulation rather than a direct electrical current like ECT. Magnetic fields are able to pass freely into the brain, making it possible to more precisely focus stimulation," Professor Fitzgerald said.

"By avoiding the use of direct electrical currents and inducing a more focal stimulation, it is thought that MST will result in an improvement of [depressive symptoms](#) without the memory difficulties seen with ECT."

Research is still at an early stage and MST is only available in a handful of locations worldwide. The MAPrc is the only centre in Australia conducting trials with this therapy.

The study found that MST resulted in an overall significant reduction in [depression symptoms](#); 40 per cent showed overall improvement and 30 per cent showed some improvement. None of the trial participants complained of cognitive side effects.

"MST shows antidepressant efficacy without apparent cognitive side effects. However, substantial research is required to understand the optimal conditions for stimulation and to compare MST to established treatments, including ECT," Professor Fitzgerald said.

"In order to accurately assess the comparable efficacy of MST to ECT, large-scale randomised controlled trials are required. There remains considerable work to be done before statements of the relative efficacy of these treatments can be made."

**More information:** [onlinelibrary.wiley.com/doi/10](http://onlinelibrary.wiley.com/doi/10)

[... 02/da.22005/abstract](#)

Provided by Monash University

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